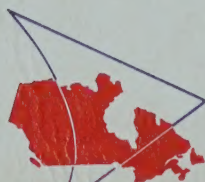


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MATTAGAMI LAKE MINES LIMITED

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RESEARCH DEPARTMENT

355 ST. JAMES STREET WEST
MONTREAL, QUEBEC • 845-9221

A. D. NESBITT
J. IAN CROOKSTON
D. B. CREIGHTON
D. D. EWART
J. M. McCONNELL
J. ROSS OBORNE
ROSS CALDER
W. M. REAY
J. R. LEARN
J. L. MACKEE

N. E. LANE
H. E. MURRAY
D. N. STOKER
D. E. M. SCHAEFER
D. B. GILL
C. I. MURRAY
G. D. SUTTON
L. J. FORBES
H. D. SCULLY

AN APPRAISAL OF

MATTAGAMI LAKE MINES LIMITED

Research Department

NESBITT, THOMSON AND COMPANY, LIMITED

MONTREAL, QUEBEC.

October, 1964.

MONTREAL TORONTO CALGARY CHARLOTTETOWN EDMONTON FREDERICTON GODERICH HALIFAX HAMILTON KITCHENER LONDON, ONT. MONCTON
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INFORMATION CONTAINED HEREIN HAS BEEN OBTAINED FROM SOURCES WHICH WE BELIEVE TO BE RELIABLE BUT IS NOT GUARANTEED BY US.

MATTAGAMI LAKE MINES LIMITED

SUMMARY

1. Mattagami is an outstanding example of sound engineering and experienced management.
2. Ore reserves, as published, are ultra-conservative and the mine should outlive anyone reading this report.
3. Stopping layouts have been anticipated for the next ten years at an average mill-feed of 12.6% zinc and at least 0.65% copper.
4. Mining and milling design and consequent efficiencies are a criterion for the mining industry.
5. We estimate Net Profit in 1964, the first full operating year of the project, will be about \$2.00/share after heavy write-offs.
6. Thereafter we anticipate Net Profits of \$2.60/share in 1965 followed by \$2.25/share in 1966, and \$2.09/share in 1967, assuming declining metal prices.
7. At conservatively minimum metal prices, and subject to full taxes, we believe the operation capable of netting \$1.50/share annual minimum.
8. We make no allowance for expansion of the zinc refining facilities at Valleyfield, nor the profits which might accrue from a fertilizer complex at that point.
9. Our judgment of the mine's potential may be somewhat influenced by what we consider the dynamic know-how of its Noranda management.

CONCLUSION

Mattagami commenced its effective productive history in January 1964. Consequently it has no background of earnings, nor is it likely to yield dividends before 1966.

In this category it does not normally attract Institutional support. Consequently, in our opinion, it is one of the few mining companies today whose shares are grossly undervalued.

We very strongly recommend the shares for near-term capital appreciation and medium-term yield.

MATTAGAMI LAKE MINES LIMITED

NOTE:

Mattagami Lake Mines Limited will hereinafter be referred to as Mattagami. This spelling conforms to the report of Dr. Robert Bell of the Geological Survey of Canada who passed through the area in 1887. The general area, and the townsite serving the mine, have adopted the name Matagami.

THE COMPANY:

In 1956 Mr. Karl Springer created the Mattagami Syndicate. Its members included -

Leitch Gold Mines
Highland Bell Mines
Dome Mines
Iso Uranium Mines
Area Mines
Teck-Hughes Gold Mines

The original capital of \$39,000 was largely expended on aerial geophysics. A great many anomalies were recorded and numerous claim groups were staked for the Syndicate. In April of 1957 an especially intriguing E.M. anomaly was disclosed in Galinee Township. This was selected for the initial ground follow-up. The first drill-hole in June 1957 penetrated what is now known as the No.1 orebody of Mattagami. Successive drill-holes were equally rewarding and it became apparent that senior mining money would be required to exploit the discovery.

In May 1958, Mr. Springer was instrumental in attracting Noranda Mines, Canadian Exploration, and McIntyre Mines into the venture. At that point it became a four-way split between the original partners and the three new participants.

Subsequently McIntyre sold out its interest at a price seemingly below its intrinsic value. Noranda and Canadian Exploration, under Noranda direction, brought the mine into production late in 1963. Their approximate percentages in the mine are about 27% equity interest each.

Mattagami Lake Mines Limited was incorporated under the Quebec Mining Companies' Act on October 9, 1958.

The effective production date for the mine is January 2, 1964.

Prior to 1963 there were no zinc refining facilities in Eastern Canada. Mattagami took the lead in building an electrolytic zinc plant and refinery at Valleyfield, Quebec, along with the following partners -

Mattagami	62.5 % interest
Orchan	18.75% "
Geco	9.0 % "
Quemont	5.75% "
Normetal	4.0 % "

The initial rated capacity output of the zinc plant was 200 tons of refined zinc daily. This is being expanded and will reach 250 tons by December 1964.

THE PROPERTY:

The Company's mining concession comprised 30 contiguous mining claims in the north part of Galinee Township, County of Abitibi-East, Quebec. Surveyed acreage is 1,136,592 acres.

Mattagami holds a 54.88% interest in Galinee Mattagami Mines Ltd., adjoining to the Southeast and comprised of 1339.5 acres. Probably of eventual importance is Mattagami's 51.49% interest held in Isle Dieu Mattagami Mines Ltd. which holds 1283.5 acres adjoining to the North and West of Mattagami.

Nothing more than routine assessment work has been done on these outlying properties.

LOCATION AND ACCESS:

The mine lies 107 miles North of the Town of Amos, Quebec, to which it is connected by an excellent, all-weather gravel road. Quebec is noted as the outstanding Province in Canada for provision of development roads.

Amos is an important lumbering town on the Canadian National Railway.

In September 1963, the C.N.R. completed a 61-mile branch line from the Chibougamau railroad into Mattagami. Zinc concentrates move over this line to Quebec City and Valleyfield. Similarly copper concentrates are shipped to the Noranda smelter.

The townsite of Matagami is located 7 miles northeast of the mine. About 130 housing units have been provided by the Company, as well as a four-sheet curling rink. The town is serviced by a department store, a chartered bank, and ancillary businesses. The number of dwelling units is of course inadequate to attract stable family life and consequently labour turnover is a serious strain on the mine.

CAPITALIZATION:

Common Shares, \$1 par:

Authorized	7,000,000
Outstanding	6,600,000
Bank Loans, Dec.31/63	\$15,300,000
Income Debentures 6/75	\$18,000,000
Our Est. 1964 Cash Flow	\$14,500,000

We estimate that the bank debt of \$15.3 millions can be almost retired in 1964. Possibly a short-term working capital loan of say \$3 millions will then be required.

The funded debt of \$18 millions has a sinking fund requirement amounting to 80% of Operating Profit annually. We estimate full retirement of this debt in 1966. It might even be possible to offset some of this amount through Bank accommodation at a more favourable interest rate.

Dividend restrictions apply through the period of outstanding Funded Debt. Starting late 1966 we would anticipate a heavy payout of earnings in the form of dividends. It has become the fashion for senior Canadian mining companies to bring home the earnings of their subsidiaries.

ORE RESERVES:

The published Ore Reserves are as follows:

No.1 Orebody, above 750' horizon - 19,377,061 tons containing

Zinc	12.0 %
Copper	0.72%
Gold	0.018 ounce/ton
Silver	1.31 ounce/ton

No.2 Orebody, partially drilled and indicated - 2,000,000 tons containing

Zinc	12.86%
Copper	0.86%
Gold	0.013 ounce/ton
Silver	0.99 ounce/ton

Indicated Life at 1.4 million tons extracted annually is 15.27 years.

In our opinion the published ore reserves form only a relatively small part of the full potential of the mine. The main orebody is certainly not delimited at 750 feet depth. It appears to rake to the northwest and would be expected to persist far beyond its presently explored depth.

The real dimensions of the No.2 orebody are not known but it is safe to assume that its ultimate tonnage is greatly in excess of the 2 million tons presently indicated. This zone is to be explored on the 350, 550, and 750 levels as development crews become available. Preliminary underground drilling indications are that it will contain at least sections of unusually high-grade ore, with emphasis on the copper content.

The chances of locating an orebody below the No.1 zone, although still speculative, are definitely encouraging.

An important section of ground between the mining area and the Orchan boundary to the South is completely unexplored. Some of the Orchan #3 Zone almost certainly will spill over into Mattagami. The intervening unexplored zone is lively.

We do not think it imprudent to anticipate a mine life for Mattagami considerably in excess of 30 years at a mining rate of 1.4 million tons of ore annually.

THE MINE:

All mining at this time is confined to the No.1 Orebody. This is a zone of massive mineralization about 1700 feet in length, by 600 feet width, for a vertical thickness of 750 feet. It appears to plunge to the Northwest.

Mining method is simple and highly efficient. The underground crew accounts for almost 38 tons of ore per man shift. The overall payroll of the mine produces more than 11 tons per man shift, which is more than twice the optimum efficiency of the Elliot Lake Camp.

The stoping layout has been engineered for 10 years in advance. In this period a mill-feed grade of 12.6% zinc plus 0.65% Copper can be reasonably anticipated.

Open stopes traverse the orebody and are mined to a width of 60 feet. Support Pillars of the same width intervene between stopes. These will eventually be mined at reasonable cost.

Level interval is 200 feet, with mine openings at 150, 350, 550 and 750 feet underground. Collector drifts for return ventilation are located at the 460 and 650-foot horizons.

Primary Crusher Station is located at the 870-foot level where run-of-mine ore is reduced to minus 6 inch.

The loading pocket is at the 1000-foot level.

Within the stop areas a slot raise is driven, usually at one end of the stope. From here sub-levels are driven at 70 and 140 feet above the level.

Horizontal and down-hole drill-holes are loaded with ammonium nitrate to drop the muck to bell-shaped passes which feed to scam drifts. At this point the ore is slushed to draw points, using 125 H.P. slushers. Dependent on stope location the ore may be fed directly to 8-ton mine cars or to transfer raises. All ore trains are powered by diesel locomotives and a normal train is made up of 5 cars. The average slushing rate is 475 tons per slusherman shift which, in our opinion, is exceptionally efficient. Rail haulage is currently about 535 tons per trainman. The General Superintendent modestly attributes this performance to the dry nature of the muck. The mine was subjected to a thorough grouting programme early in its history. Consequently seepage is negligible and the ore at the draw points is literally dusty.

Mine development is maintained well ahead of stoping requirements. Therefore grade can be very closely controlled. Extraordinary demands from the Sales Organization, when they occur, do not create any undue strain on the mine.

THE CONCENTRATOR:

The concentrator is a classic example of automation.

Zinc recovery is running between 90 and 92% of contained metal. A reasonable expectancy might be 90.5% recovery in a concentrate of 52% Zinc dried to 3% moisture.

Copper recovery is running about 75% of contained metal in an 18.5% concentrate. This percentage recovery of a relatively low-grade Copper content is commendable.

Most of the Zinc concentrate is being sold overseas, with a minor amount being delivered to the Valleyfield Smelter. The Copper concentrate is delivered to the Noranda Smelter.

THE ZINC REFINERY:

The Zinc Refinery is no more than a further step in concentration. It is, in effect, an agency. Of the refinery profits 62.5% revert to Mattagami and form an integral part of mine profits for purposes of depreciation and depletion. We estimate that in 1964 this source of revenue to Mattagami will be not less than \$2 millions and increasing thereafter.

This plant offers unusual chances for expansion. For the time being concentrates are being sintered by outside agencies. Any further expansion of the refinery facilities, which are to be expected, will involve an

internal sintering plant. Logically it follows that the Zinc Plant could proceed into the Fertilizer Business. At this point it is impossible to estimate what profits might accrue to Mattagami from this source, other than to think that they could be substantial.

Mattagami metal sales are handled through the Sales Division of Noranda Mines. The Zinc production is largely sold overseas in the form of concentrates. The balance is treated by Canadian Electrolytic Zinc Limited at Valleyfield, Quebec. Mattagami owns a 62.5% interest in this zinc treatment plant and can elect to supply 62.5% of the zinc concentrate feed if it so desires.

The purpose of the plant at Valleyfield is described in the Notes to Financial Statements, December 31, 1963, by Mattagami's Auditors, as follows -

"Canadian Electrolytic Zinc Limited's only function is to act as agent in connection with the zinc plant on behalf of the Company and the four other mining companies participating in the zinc plant."

Under this arrangement Mattagami can carry its investment of about \$10 millions in the zinc plant into the Mattagami Balance Sheet as a fixed asset depreciable for tax purposes. Normal mine depletion is allowable.

Mattagami's Copper Concentrates are shipped by rail to the Noranda Smelter.

DIRECT OPERATING COSTS:

We estimate direct operating costs as follows:

Mining	\$1.80/ton milled
Milling	1.05
Administration & General	0.47
H.O. & Sales	0.33

Total Direct Op. Costs \$3.65/ton milled

360 days makes about 1,370,000 tons milled.

Direct Operating Cost/year we estimate to be \$5,000,500.

METAL PRICES:

Mattagami zinc is sold in Canada, the United States, Europe, and Japan. Price of metal is variable dependent on the area. Also, relative tonnages sold in the different trading zones could change appreciably from month to month.

For purposes of projecting profits we have assumed that Mattagami sales tonnages will average 10% within Canada, 10% in the U.S., and 80% Overseas. We further assume that present zinc metal prices are reasonably firm through 1965 and will decline in 1966 and 1967 to stabilize at a long-term average of 12¢/lb Canadian for Zinc.

CURRENT ZINC METAL QUOTATIONS

European Producer Price £ 110/ton	=	13.75¢/lb Cdn.
Canada	=	14.5 ¢/lb Cdn.
U.S. (14.5 - .7) 1.075	=	14.83¢/lb Cdn.

Weighted Average - 80-10-10 distribution	=	13.93¢/lb Cdn.
For 1966 assume		13¢/lb.
For 1967 and onward assume		12¢/lb.

We assume that the Noranda Smelter Contract calls for Copper payment at the Canadian quotation which is currently 35¢/lb.

Although the Copper pricing looks quite firm for some considerable time we think it would be discreet, for purposes of estimating profits, to anticipate an average price of 31.5¢/lb for copper in 1967 and thereafter.

EARNINGS PROJECTIONS:

For the Initial Production Year 1964 we anticipate Net Profits of \$2.00/share after write-offs of \$3,236,370.

The mine and concentrator would have been expected to have the customary start-up problems, and normal efficiencies should not be expected before the second half of the year. In addition development muck had been stockpiled on surface and was largely milled in the first half of the year. This sulphide ore oxidizes readily in the atmosphere and provides poor mill-feed from the standpoint of recovery. It has long since been entirely consumed.

We have not seen the Smelter schedules of either Canadian Electrolytic Zinc or Noranda as they apply to Mattagami. However, Smelters are so competitive that relatively standard rates can be assumed without too much margin of error.

With all the foregoing assumptions we anticipate earnings as follows:

... see table on next page

...10

YEAR 1965

Zinc Payment			
(2000 x .52 - 8 x 20)	.1393	=	\$122.58
less: Smelter Charge			47.00
Freight			5.61
Net Smelter Return			\$ 69.97
Copper Payment			
(2000 x .185 - 20) (35 - 3.5)		=	\$110.25
Silver Credit			26.00
Gold Credit			12.75
Total Credit			\$149.00
less: Smelter			9.00
Freight			5.00
Mositure			0.30
Net Cu Smelter Return			\$134.70
Zinc	300,400 tons @ \$69.97	=	\$21,018,988
Copper	36,100 tons @ \$134.70	=	4,862,670
Total Smelter Return			\$25,881,658
less: Operating Costs			5,000,500
Direct Operating Profit			\$20,881,158
Add: Canadian Electrolytic Zinc			2,625,000
Sub-Total			\$23,506,158
less: Net Interest on Debt			900,000
Sub-Total			\$22,606,158
less: Accrued Interest			913,000
Sub-Total			\$21,693,158
less: Quebec Tax			1,292,000
Sub-Total			\$20,401,158
less: Depreciation (12 years)			3,236,370
Net Profit			\$17,164,788

Shares Issued 6,600,000

Net Profit/Share \$ 2.60, Year 1965

Cash Flow/Share after \$2.5 millions

Capital Expenditures = \$2.71/share

YEAR 1966

Net Profit	\$14,880,000
Net Profit/Share	\$2.25

YEAR 1967

Net Profit	\$13,804,000
Net Profit/Share	\$2.09

On the write-off basis assumed, the mine would be tax-free in 1968. In 1969 accelerated reserve for taxes would make the operation almost free of Federal tax.

Thereafter the mine should be able to net \$1.50/share after taxes. This makes no profit allowance for expansion of operations, nor step-up of the Electrolytic Works at Valleyfield. A potential move into the fertilizer business is similarly disregarded.

THE STOCK MARKET:

Prior to dividends and during its debt a stock of this calibre should be expected to sell in the range of 10 to 13 times earnings. During 1966 the debt should be completely retired and a regular dividend policy established. At that time a reasonable market range should be in the order of 13 to 17 times earnings.

On this basis near-term trading range should be -

Low	10 x \$2.00	=	\$20.00/share
High	13 x \$2.60	=	\$33 5/8 share

Over the longer term a reasonable range, after dividends of better than \$1.00/share annually, should be -

Low	13 x \$1.50	=	\$19.50
High	17 x \$1.50	=	\$25.50 plus

ACKNOWLEDGMENT:

Compilation of this report has not been edited nor cleared by Mattagami and does not necessarily reflect the views of the Company. Nevertheless it has been made possible only through the gracious co-operation of mine officials and operating staff. We gratefully acknowledge the assistance of some of the people from the Mattagami Organization, namely -

W.S.Row,	President, Mattagami
R.C.Ashenhurst,	Secretary-Treasurer
M.W.Airth,	Mine Manager
J.H.Iglesias,	General Superintendent
J.B.Knapp,	Plant Superintendent
D.W.Tully,	Chief Geologist
J. Brosko,	Underground Superintendent

J.H.SHEPHERD,
MINING ENGINEER.

MONTREAL, QUEBEC,
24 October, 1964.

JHS:IH.

